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Numerical Results of the Field Experiments 1969

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69/W/CS/16 - Irrigation & Eelworms - Potatoes

Rothamsted Research

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IRRIGATION AND EELWORMS

(69/W/CS/16)

Butt Close Woburn, the fourth year - potatoes, 1969

Effects on yield and cyst nematode of soil fumigant, irrigation and sequences of resistant and susceptible varieties of potatoes.

For details of treatments etc. and previous years' results see 'Results' 66/C/32, 67/C/25 and 68/C/19. Irrigation and fumigant treatments are cumulative.

NOTE: The fumigant was changed to dazomet and applied at 150 lb in rows by machine.

Area of each sub plot: 0.0114. Area harvested: 0.0046.

Irrigation to C plots 1969 (inches water).

	Series I		Series IV
18 June	0.5	17 June	0.5
1 July	0.5	3 July	0.5
16 July	0.5	17 July	0.5
28 July	0.5	25 July	0.5
8 Aug	0.5	9 Aug	0.5
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Total	2.5		2.5

Basal applications: 9 cwt (13:13:20). Weedkiller: Paraquat at 0.37 lb ion plus linuron at 0.5 lb in 25 gals. Fungicide: Mancozeb at 1.2 lb in 37 gals, on two occasions. Insecticide: Demeton-s-methyl at 3.5 oz applied once with fungicide.

Cultivations, etc.: F plots rotary cultivated, fumigated (Series I): 14 Oct, 1968, (Series IV): 15 Oct. Remaining plots rotary cultivated: 16 Oct. All plots rotary cultivated second time: 17 Oct. Ploughed (Series I): 7 Feb, 1969, (Series IV): 6 Mar. Fertiliser applied: 9 Apr. Rotary cultivated: 18 Apr. Potatoes planted: 19 Apr. Weedkiller applied: 14 May. Grubbed and earthed up: 13 June. Fungicide with insecticide applied: 18 July. Fungicide applied: 6 Aug. Haulm mechanically destroyed: 12 Sept. Lifted: 22 Sept.

NOTE: Soil samples were taken from each plot after fumigation and before cropping. Cyst and egg counts were made.

Standard errors per plot. Total tubers, tons:

Series I

Strip: 1.138 or 10.0% (6 d.f.)
1/2 plots: 0.860 or 7.6% (8 d.f.)
1/4 plots: 1.024 or 9.0% (16 d.f.)
Pooled (used for calculation of standard errors in the summary):
1.008 or 8.8% (30 d.f.)

Series IV

Strip: 2.044 or 16.0% (6 d.f.)
1/2 plots: 1.514 or 11.8% (8 d.f.)
1/4 plots: 1.570 or 12.3% (16 d.f.)
Pooled (used for calculation of standard errors in the summary):
1.662 or 13.0% (30 d.f.)

SUMMARY OF RESULTS

SERIES I

1966	MP	PD	PD	MP	
1967	MP	MP	PD	PD	
1968	MP	PD	PD	MP	
1969	MP	MP	PD	PD	Mean
TOTAL TUBERS: TONS					
(±0.411)					
O	13.78	12.19	7.77	8.59	10.59
C	15.77	13.84	8.36	10.85	12.20
O	11.93	7.01	1.89	3.96	6.20
F	17.62	19.02	14.24	15.48	16.59
Mean (±0.291)	14.78	13.02	8.07	9.72	11.40
% WARE					
O	93.1	95.4	74.2	82.3	86.2
C	94.9	96.5	82.7	87.7	90.4
O	92.1	95.4	63.6	75.1	81.5
F	95.8	96.5	93.4	94.8	95.1
Mean	94.0	95.9	78.5	85.0	88.3

Varieties MP = Maris Piper
 PD = Pentland Dell

SERIES IV

1966	MP	PD	PD	MP	
1967	MP	MP	PD	PD	
1968	MP	PD	PD	MP	
1969	MP	MP	PD	PD	Mean
TOTAL TUBERS: TONS					
(±0.678)					
					(±0.339)
O	14.90	12.26	8.80	10.50	11.61
C	17.72	14.42	10.07	13.68	13.97
O	14.81	7.87	1.68	7.25	7.90
F	17.80	18.81	17.18	16.93	17.68
Mean (±0.480)	16.31	13.34	9.43	12.09	12.79

% WARE

O	96.1	94.3	79.9	90.9	90.3
C	96.6	96.5	87.4	94.6	93.8
O	95.5	94.7	71.4	90.1	87.9
F	97.2	96.1	95.8	95.4	96.1
Mean	96.4	95.4	83.6	92.7	92.0

Varieties MP = Maris Piper
PD = Pentland Dell